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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,609	03/21/2001	Billy G. Moon	062891.0575	3941

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EXAMINER

GREY, CHRISTOPHER P

ART UNIT PAPER NUMBER

2667

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/814,609		MOON, BILLY G.	
	Examiner		Art Unit	
	Christopher P Grey		2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. Responsive to the amendment received on February 18, 2005, claim 1 is entered as requested.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 8, 9, 10, 17, 18, 25, 26, 29, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 6570871) in view of Bass et al. (US 6272134)

Claims 1, 8, 9, 10, 17, 18, 25, 26, 29, 32

Schneider discloses a system and method related to a wireless telecommunication systems, comprising a mobile station (see element 70a and 70b in Fig 2) transmitting data to a plurality of base station transceivers (see element 66 in Fig 2). The mobile station uses a speech coder (vocoder) that generates digital voice samples, and an encoder that allows error correction and assures that information in the digital voice samples are reliably transmitted over the interface to the base stations (Col 6 line 56- Col 7 line 4). The use of binary code and several different computer mediums such as a mobile unit and base station transceiver allow this invention to be applicable to software. Schneider further discloses a plurality of base station transceivers (BTS's) coupled with a gateway interface, that are capable of decoding the original digital voice samples and applying

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the necessary error correction. The digital voice samples are then generated in packets and transmitted to a destination node (Col 12 lines 8-16). Schneider also discloses a channel coder including a convolution encoder and decoder that use concatenation codes (disclosed in Col 9 line 56- Col 10 line 9). Schneider does not disclose a copy of the content transmitted to each destination.

Bass et al. ('Bass' hereinafter) discloses a method and system for the transmission of data through a data communication network (disclosed in Col 1 lines 7-14). Before the transmission of the packet from the source node (mobile unit), one or more copies of a portion (which can include the whole) of the received data frame are constructed via a multicast/unicast solution logic (element 306 Fig 3). A central node receives the packetized data unit from the source node and transmits the copies of it to one or more of the destination nodes (disclosed in Col 2 lines 20-36). Furthermore, these multicast frames (copies) are transmitted via an I/O logic (element 308 Fig 3) over each data link appropriate to the destination of the copy (disclosed in Col 6 lines 38-58, also see Col 2 lines).

Therefore it would have been obvious for one of the ordinary skill in the art at the time of the invention to modify the invention disclosed by Schneider, who most importantly presents a communication system that transmits voice data from a mobile unit to a destination, using encoding, error correction and decoding, via a plurality of BTS's, with the invention disclosed by Bass, who most importantly presents multicasting in a data communication network that transmits data from a node (mobile unit) to a plurality of nodes (BTS's and destination nodes) by initially copying the incoming data.

The motivation for the discussed modifications is to increase error correction in a packet switched multicasting network.

3. Claims 2, 3, 11, 12, 19, 20, 27, 28, 30, 31, 33, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 6570871) in view of Bass et al. (US 6272134) in further view of Korus et al. (US 6785254)

Claim 2, 3, 11, 12, 19, 20, 27, 28, 30, 31, 33, 34 Schneider discloses a PAD that packetizes the data and allows a router to receive the decoded digital voice samples. The router then outputs the assigned data packets to a destination node corresponding to the destination address of the data packets (disclosed in Col 16 line 37- Col 17 line 10). Schneider does not disclose the router using a packet selection technique.

Korus et al ('Korus' hereinafter) discloses a packet network for use within a wireless communication system that allows optimal packet distribution where from a plurality of routing devices outputting packets, one is selected based on BER, signal strength or some other form of metric (disclosed in Col 3 lines 18-36 and Col 12 lines 61- Col 13 line 9, also see abstract)

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the motivation disclosed previously, with the routing method disclosed in Korus's invention, which uses a metric in order to select a suitable packet from a plurality of routers. The motivation for this combination is to provide a system that is optimized at supporting a growing number packet data transmissions and voice communications (Col 2 lines 32-43)

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4. Claims 4, 5, 13, 14, 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 6570871) in view of Bass et al. (US 6272134) in further view of Dong et al. (US 6549542)

Claims 4, 5, 13, 14, 21, 22 Scneider and Bass fail to disclose the related codes used to encode the copies of the content being orthogonally related and punctured codes.

Dong et al. ('Dong' hereinafter) discloses within the field of wireless communication, a device capable of being used in a base station (Col 1 lines 15 –20). Dong discloses a convolutional encoder (element 741 in fig 7) typically used for reducing errors in transmission bits and orthogonal codes being uniquely assigned to respective channels (disclosed in Col 1 lines 35-45). Dong further introduces a symbol puncturer (element 743 in fig 7) for producing punctured codes (disclosed in Col3 lines 23-55).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the motivation previously provided, with the encoder and puncturer disclosed by Dong. The motivation for this modification is to be able to identify an orthogonally encoded packet and allow the selection of an insertion signal for a punctured code (disclosed in Col 5 lines 44-55).

5. Claims 6, 7, 15, 16, 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 6570871) in view of Bass et al. (US 6272134) in further view of ten Brunk (US 6611513)

Claims 6, 7, 15, 16, 23, 24 Schneider and Bass do not disclose the related codes being serially concatenated or concatenated in parallel.

Ten Brunk discloses an invention for use within the area of digital wireless communication, including a transmitter and receiver. Ten Brunk discloses an encoder connected in series with a bit interleaver dedicated towards transmitting and processing a signal (see Fig 1, 2 or 3). Ten Brunk goes on to further disclose concatenating coding schemes applying to at least two parallel or serially concatenated encoders (Col 1 lines 49-50).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to apply the motivation and description previously discussed, which discloses an encoder, with the concatenation of the encoder disclosed by Ten Brunk. The motivation for this application is to allow the option of transmission on a block by block basis (Col 1 line 54- Col 2 line12) or transmission on a multiple block basis.

Response to Arguments

6. Applicant's arguments filed February 18, 2005 have been fully considered but they are not persuasive.

(a) The applicant argued that the cited art does not disclose Applicant's claimed "a copy of the content transmitted to each base transceiver station being encoded using a code that is related to the codes used to encode copies of the content transmitted to the other base transceiver stations."

The examiner maintains that the same limitation, in its broadest term, is already discussed in the rejection of claims 1, 10, 18, 26 and 29, wherein Schneider discloses transmitting coded data from a mobile node to a number of possible base transceiver station (Col 6 line 56 -Col 7 line 4 and see fig 2 elements 70a and 66). Furthermore, Bass discloses a node constructing multiple copies of a data frame using a multicast solution logic (Col 6 lines 38-53 and fig 3 element 306).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the mobile station as disclosed by Schneider to implement a multicast solution logic for duplicating the content of data to be transmitted, destined for multiple destination as disclosed by Bass, where furthermore, the data is encoded for transmission as disclosed by Schneider.

(b) The applicant argued that the cited art does not disclose Applicant's claimed "a plurality of base transceiver stations, each base station operable to: receive a copy of

the coded content from the mobile unit and generate a packet including the coded content.”

The examiner maintains that the same limitation, in its broadest term, is discussed in the rejection of claims 1, 10, 18, 26 and 29, wherein Schneider discloses a base station performing packetization (Col 12 lines 9-16).

(c) The applicant argued that the cited art does not disclose Applicant's claimed “ a decoder operable to: receive a plurality of packets each including a copy of the coded content, each packet generated at a different base transceiver station; decode the content in the packets by concatenating the related codes used to encode each copy of the content”

The examiner maintains that the same limitation, in its broadest term, is discussed in the rejection of claims 1, 10, 18, 26 and 29, wherein Schneider discloses a decoder, which may decode the TDMA frames at the MSC (Col 12 lines 17-49), where the MSC (element 62a in fig 2) is connected to receive data from BTS's (element 66 in fig 2). Schneider discloses an encoder using concatenation codes (Col 9 line 56-Col 10 line 9), where it would have been obvious to one of the ordinary skill in the art at the time of the invention that the concatenated encoded data is sent to the decoder as disclosed above.

(d) The applicant argued that the cited art does not disclose Applicant's claimed "a router operable to receive a plurality of redundant packets from the decoder; and select one of the redundant packets using a packet selection technique."

The examiner maintains that the same limitation, in its broadest term, is discussed in the rejection of claims 2, 11, 19, 27, 30 and 33 wherein:

Schneider discloses a Mobile switching center (router) that receives data from the BTS's as disclosed above.

Korus discloses a router that receives data, and uses information provided at the router pertaining to the data received to forward the data (Col 6 lines 40-65).

Korus also discloses a controller selecting a unique multicast IP address for an incoming request (Col 10 lines 42-55), where it would have been obvious to one of the ordinary skill in the art that addresses are stored within packets.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the controller as disclosed by Korus, within the Mobile switching center as disclosed by Schneider, where the MSC receives data from each BTS (see fig 2), and the controller assigns the data received in the MSC by a selection technique as disclosed above.

(e) The applicant argued that the cited art does not disclose Applicant's claimed "selecting a redundant packet based on a value of a metric included in each packet, the value of the metric in each packet associated with communications between the mobile

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unit and the base transceiver station that received the copy of the content included in the packet from the mobile station.”

The examiner maintains that the same limitation, in its broadest term, is discussed in the rejection of claims 3, 12, 20, 28, 31 and 34 wherein:

Korus discloses a controller selecting a unique multicast IP address based on a number of metrics (Col 12 lines 61-Col 13 line 9).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the Mobile Switching Center as disclosed by Schneider with the controller as disclosed by Korus, where the controller makes a selection of an address based on a number of metrics.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(a) Lin (US 4937817) discloses a packet selection technique based upon the availability or unavailability of a destination of the packet.

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Grey
Examiner
Art Unit 2667

C. l
7/28/05


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